

# SEQUENCE LISTING

<110> Gerald, Christophe P.G.  
 Jones, Kenneth A.  
 Bonini, James A.  
 Borowsky, Beth

<120> DNA Encoding Mammalian Neuropeptide FF (NPFF) Receptors  
 and Uses Thereof

<130> 1795/57155-A

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<150> 09/161,113

<151> 1998-09-25

<160> 42

<170> PatentIn Ver. 2.0 - beta

<210> 1

<211> 1410

<212> DNA

<213> Rattus norvegicus

<400> 1

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tgcattggtg gcaacaccct ggtctgtctc attgtgtctc agaaccggca catgcgcact 300
gtcaccaaca tgtttatcct caacctggcc gtcagcgacc tgctgggtgg catcttctgc 360
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<213> Rattus norvegicus

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Gln Asn Gly Ser Asp Val Glu Thr Ser Met Ala Thr Ser Leu Thr Phe  
20 25 30  
Ser Ser Tyr Tyr Gln His Ser Ser Pro Val Ala Ala Met Phe Ile Ala  
35 40 45  
Ala Tyr Val Leu Ile Phe Leu Leu Cys Met Val Gly Asn Thr Leu Val  
50 55 60  
Cys Phe Ile Val Leu Lys Asn Arg His Met Arg Thr Val Thr Asn Met  
65 70 75 80  
Phe Ile Leu Asn Leu Ala Val Ser Asp Leu Leu Val Gly Ile Phe Cys  
85 90 95  
Met Pro Thr Thr Leu Val Asp Asn Leu Ile Thr Gly Trp Pro Phe Asp  
100 105 110  
Asn Ala Thr Cys Lys Met Ser Gly Leu Val Gln Gly Met Ser Val Ser  
115 120 125  
Ala Ser Val Phe Thr Leu Val Ala Ile Ala Val Glu Arg Phe Arg Cys  
130 135 140  
Ile Val His Pro Phe Arg Glu Lys Leu Thr Leu Arg Lys Ala Leu Phe  
145 150 155 160  
Thr Ile Ala Val Ile Trp Ala Leu Ala Leu Leu Ile Met Cys Pro Ser  
165 170 175  
Ala Val Thr Leu Thr Val Thr Arg Glu Glu His His Phe Met Leu Asp  
180 185 190  
Ala Arg Asn Arg Ser Tyr Pro Leu Tyr Ser Cys Trp Glu Ala Trp Pro  
195 200 205  
Glu Lys Gly Met Arg Lys Val Tyr Thr Ala Val Leu Phe Ala His Ile  
210 215 220

Tyr	Leu	Val	Pro	Leu	Ala	Leu	Ile	Val	Val	Met	Tyr	Val	Arg	Ile	Ala	225	230	235	240
Arg	Lys	Leu	Cys	Gln	Ala	Pro	Gly	Pro	Ala	Arg	Asp	Thr	Glu	Glu	Ala	245	250	255	
Val	Ala	Glu	Gly	Gly	Arg	Thr	Ser	Arg	Arg	Arg	Ala	Arg	Val	Val	His	260	265	270	
Met	Leu	Val	Met	Val	Ala	Leu	Phe	Phe	Thr	Leu	Ser	Trp	Leu	Pro	Leu	275	280	285	
Trp	Val	Leu	Leu	Leu	Leu	Ile	Asp	Tyr	Gly	Glu	Leu	Ser	Glu	Leu	Gln	290	295	300	
Leu	His	Leu	Leu	Ser	Val	Tyr	Ala	Phe	Pro	Leu	Ala	His	Trp	Leu	Ala	305	310	315	320
Phe	Phe	His	Ser	Ser	Ala	Asn	Pro	Ile	Ile	Tyr	Gly	Tyr	Phe	Asn	Glu	325	330	335	
Asn	Phe	Arg	Arg	Gly	Phe	Gln	Ala	Ala	Phe	Arg	Ala	Gln	Leu	Cys	Trp	340	345	350	
Pro	Pro	Trp	Ala	Ala	His	Lys	Gln	Ala	Tyr	Ser	Glu	Arg	Pro	Asn	Arg	355	360	365	
Leu	Leu	Arg	Arg	Arg	Val	Val	Val	Asp	Val	Gln	Pro	Ser	Asp	Ser	Gly	370	375	380	
Leu	Pro	Ser	Glu	Ser	Gly	Pro	Ser	Ser	Gly	Val	Pro	Gly	Pro	Gly	Arg	385	390	395	400
Leu	Pro	Leu	Arg	Asn	Gly	Arg	Val	Ala	His	Gln	Asp	Gly	Pro	Gly	Glu	405	410	415	
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 <212> DNA  
 <213> Homo sapiens

<400> 3

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gcatgtttca ttgtggccta tgcgctcacc ttcctgctct gcatgggtggg caacaccctg 180  
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<210> 4

<211> 66

<212> PRT

<213> Homo sapiens

<400> 4

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1 5 10 15

Thr Asn Thr Glu Ala Thr Pro Ala Thr Asn Leu Thr Phe Ser Ser Tyr  
20 25 30

Tyr Gln His Thr Ser Pro Val Ala Ala Met Phe Ile Val Ala Tyr Ala  
35 40 45

Leu Ile Phe Leu Leu Cys Met Val Gly Asn Thr Leu Val Cys Phe Ile  
50 55 60

Val Leu  
65

<210> 5

<211> 1302

<212> DNA

<213> Homo sapiens

<400> 5

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aatattacct atgtgaacta ctatcttcac cagcctcaag tggcagcaat cttcattatt 180  
tctacttttc tgatcttctt tttgtgcatg atgggaaata ctgtgggttg ctttattgta 240  
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gatttactag ttggcatatt ctgcatgcct ataacactgc tggacaatat tatagcagga 360  
tggccatttg gaaacacgat gtgcaagatc agtggattgg tccagggaat atctgtcgca 420  
gcttcagtct ttacgtagt tgcaattgct gtagataggt tccagtgtgt ggtctacct 480  
tttaaaccac agctcactat caagacagcg tttgtcatta ttatgatcat ctgggtccta 540  
gccatcacca ttatgtctcc atctgcagta atgttacatg tgcaagaaga aaaatattac 600  
cgagtgcagc tcaactccca gaataaaacc agtccagtct actgggtgccg ggaagactgg 660  
ccaaatcagg aaatgaggaa gatctacacc actgtgctgt ttgccaacat ctacctggct 720  
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gttcttcaca caggcaggaa gaaccaggag cagtggcacg tgggtgtccag gaagaagcag 840  
aagatcatta agatgctcct gattgtggcc ctgcttttta ttctctcatg gctgcccctg 900  
tggactctaa tgatgctctc agactacgct gacctttctc caaatgaact gcagatcacc 960  
aacatctaca tctacccttt tgcacactgg ctggcattcg gcaacagcag tgtcaatccc 1020

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<210> 6

<211> 420

<212> PRT

<213> Homo sapiens

<400> 6

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20 25 30

Thr Tyr Val Asn Tyr Tyr Leu His Gln Pro Gln Val Ala Ala Ile Phe  
35 40 45

Ile Ile Ser Tyr Phe Leu Ile Phe Phe Leu Cys Met Met Gly Asn Thr  
50 55 60

Val Val Cys Phe Ile Val Met Arg Asn Lys His Met His Thr Val Thr  
65 70 75 80

Asn Leu Phe Ile Leu Asn Leu Ala Ile Ser Asp Leu Leu Val Gly Ile  
85 90 95

Phe Cys Met Pro Ile Thr Leu Leu Asp Asn Ile Ile Ala Gly Trp Pro  
100 105 110

Phe Gly Asn Thr Met Cys Lys Ile Ser Gly Leu Val Gln Gly Ile Ser  
115 120 125

Val Ala Ala Ser Val Phe Thr Leu Val Ala Ile Ala Val Asp Arg Phe  
130 135 140

Gln Cys Val Val Tyr Pro Phe Lys Pro Lys Leu Thr Ile Lys Thr Ala  
145 150 155 160

Phe Val Ile Ile Met Ile Ile Trp Val Leu Ala Ile Thr Ile Met Ser  
165 170 175

Pro Ser Ala Val Met Leu His Val Gln Glu Glu Lys Tyr Tyr Arg Val  
180 185 190

Arg Leu Asn Ser Gln Asn Lys Thr Ser Pro Val Tyr Trp Cys Arg Glu  
195 200 205

Asp	Trp	Pro	Asn	Gln	Glu	Met	Arg	Lys	Ile	Tyr	Thr	Thr	Val	Leu	Phe
210						215					220				
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225					230					235					240
Arg	Ile	Gly	Ile	Ser	Leu	Phe	Arg	Ala	Ala	Val	Pro	His	Thr	Gly	Arg
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Lys	Asn	Gln	Glu	Gln	Trp	His	Val	Val	Ser	Arg	Lys	Lys	Gln	Lys	Ile
		260						265					270		
Ile	Lys	Met	Leu	Leu	Ile	Val	Ala	Leu	Leu	Phe	Ile	Leu	Ser	Trp	Leu
		275					280					285			
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305					310					315					320
Leu	Ala	Phe	Gly	Asn	Ser	Ser	Val	Asn	Pro	Ile	Ile	Tyr	Gly	Phe	Phe
				325					330					335	
Asn	Glu	Asn	Phe	Arg	Arg	Gly	Phe	Gln	Glu	Ala	Phe	Gln	Leu	Gln	Leu
			340					345					350		
Cys	Gln	Lys	Arg	Ala	Lys	Pro	Met	Glu	Ala	Tyr	Ala	Leu	Lys	Ala	Lys
		355					360					365			
Ser	His	Val	Leu	Ile	Asn	Thr	Ser	Asn	Gln	Leu	Val	Gln	Glu	Ser	Thr
	370					375					380				
Phe	Gln	Asn	Pro	His	Gly	Glu	Thr	Leu	Leu	Tyr	Arg	Lys	Ser	Ala	Glu
385					390					395					400
Lys	Pro	Gln	Gln	Glu	Leu	Val	Met	Glu	Glu	Leu	Lys	Glu	Thr	Thr	Asn
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<210> 7

<211> 1293

<212> DNA

<213> Homo sapiens

<400> 7

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<210> 8

<211> 430

<212> PRT

<213> Homo sapiens

<400> 8

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Gln Asn Gly Thr Asn Thr Glu Ala Thr Pro Ala Thr Asn Leu Thr Phe
          20                      25                      30

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Ser Ser Tyr Tyr Gln His Thr Ser Pro Val Ala Ala Met Phe Ile Val
          35                      40                      45

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Ala Tyr Ala Leu Ile Phe Leu Leu Cys Met Val Gly Asn Thr Leu Val
          50                      55                      60

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Cys Phe Ile Val Leu Lys Asn Arg His Met His Thr Val Thr Asn Met
          65                      70                      75                      80

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Phe Ile Leu Asn Leu Ala Val Ser Asp Leu Leu Val Gly Ile Phe Cys
          85                      90                      95

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Met Pro Thr Thr Leu Val Asp Asn Leu Ile Thr Gly Trp Pro Phe Asp
          100                      105                      110

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Asn	Ala	Thr	Cys	Lys	Met	Ser	Gly	Leu	Val	Gln	Gly	Met	Ser	Val	Ser	115	120	125
Ala	Ser	Val	Phe	Thr	Leu	Val	Ala	Ile	Ala	Val	Glu	Arg	Phe	Arg	Cys	130	135	140
Ile	Val	His	Pro	Phe	Arg	Glu	Lys	Leu	Thr	Leu	Arg	Lys	Ala	Leu	Val	145	150	155
Thr	Ile	Ala	Val	Ile	Trp	Ala	Leu	Ala	Leu	Leu	Ile	Met	Cys	Pro	Ser	165	170	175
Ala	Val	Thr	Leu	Thr	Val	Thr	Arg	Glu	Glu	His	His	Phe	Met	Val	Asp	180	185	190
Ala	Arg	Asn	Arg	Ser	Tyr	Pro	Leu	Tyr	Ser	Cys	Trp	Glu	Ala	Trp	Pro	195	200	205
Glu	Lys	Gly	Met	Arg	Arg	Val	Tyr	Thr	Thr	Val	Leu	Phe	Ser	His	Ile	210	215	220
Tyr	Leu	Ala	Pro	Leu	Ala	Leu	Ile	Val	Val	Met	Tyr	Ala	Arg	Ile	Ala	225	230	235
Arg	Lys	Leu	Cys	Gln	Ala	Pro	Gly	Pro	Ala	Pro	Gly	Gly	Glu	Glu	Ala	245	250	255
Ala	Asp	Pro	Arg	Ala	Ser	Arg	Arg	Arg	Ala	Arg	Val	Val	His	Met	Leu	260	265	270
Val	Met	Val	Ala	Leu	Phe	Phe	Thr	Leu	Ser	Trp	Leu	Pro	Leu	Trp	Ala	275	280	285
Leu	Leu	Leu	Leu	Ile	Asp	Tyr	Gly	Gln	Leu	Ser	Ala	Pro	Gln	Leu	His	290	295	300
Leu	Val	Thr	Val	Tyr	Ala	Phe	Pro	Phe	Ala	His	Trp	Leu	Ala	Phe	Phe	305	310	315
Asn	Ser	Ser	Ala	Asn	Pro	Ile	Ile	Tyr	Gly	Tyr	Phe	Asn	Glu	Asn	Phe	325	330	335
Arg	Arg	Gly	Phe	Gln	Ala	Ala	Phe	Arg	Ala	Arg	Leu	Cys	Pro	Arg	Pro	340	345	350
Ser	Gly	Ser	His	Lys	Glu	Ala	Tyr	Ser	Glu	Arg	Pro	Gly	Gly	Leu	Leu	355	360	365
His	Arg	Arg	Val	Phe	Val	Val	Val	Arg	Pro	Ser	Asp	Ser	Gly	Leu	Pro	370	375	380



Ser Glu Ser Gly Pro Ser Ser Gly Ala Pro Arg Pro Gly Arg Leu Pro  
385 390 395 400

Leu Arg Asn Gly Arg Val Ala His His Gly Leu Pro Arg Glu Gly Pro  
405 410 415

Gly Cys Ser His Leu Pro Leu Thr Ile Pro Ala Trp Asp Ile  
420 425 430

<210> 9  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer/probe

<400> 9  
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<210> 10  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer/probe

<400> 10  
avnadngbrw avannanngg rtt 23

<210> 11  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
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<210> 12  
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<220>

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<400> 12

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26

<210> 13

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer/probe

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26

<210> 14

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer/probe

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26

<210> 15

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

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24

<210> 16

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

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<210> 17

<211> 53  
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24

<210> 22

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<210> 23

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<212> DNA

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<223> Description of Artificial Sequence: primer/probe

<400> 23

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24

<210> 24

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer/probe

<400> 24

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23

<210> 25

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer/probe

<400> 25

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23

<210> 26

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<210> 27  
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<210> 28  
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<210> 29  
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<400> 29  
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<210> 30  
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<223> Description of Artificial Sequence: primer/probe

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actcactata gggctcgagc ggc 23

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<210> 32  
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<210> 33  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer/probe

<400> 33  
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<210> 34  
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<220>  
<223> Description of Artificial Sequence: primer/probe

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<210> 35  
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<210> 40  
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<220>  
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<210> 41  
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<220>  
<223> Description of Artificial Sequence: primer/probe

<400> 41  
gatcagtgga ttggtccagg gaatatc 27

<210> 42  
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<220>  
<223> Description of Artificial Sequence: primer/probe

<400> 42  
ccaggtagat gttggcaaac agcac 25